ELSEVIER

Bioenergetics
(including Reviews on Bioenergetics)

Vol. 1188, 1994

BBA Biochimica et Biophysica Acta

Cumulative Contents

Obituary – Laurens L.M. van Deenen ix

Information for Contributors xi

Review

Enzymes II of the phospho*enol*pyruvate-dependent phosphotransferase systems: their structure and function in carbohydrate transport
J.W. Lengeler, K. Jahreis and U.F. Wehmeier (Germany, USA) 1

Regular Papers

Proton gradient-induced changes of the interaction between CF_0 and CF_1 as probed by cleavage with NaSCN
H.R. Fiedler, S. Ponomarenko, N. Von Gehlen and H. Strotmann (Germany) 29

Optically detected magnetic resonance study on the origin of the pheophytin triplet state in D1/D2-cytochrome *b*-559 complexes
A. Angerhofer, G. Friso, G.M. Giacometti, D. Carbonera and G. Giacometti (Germany, Italy) 35

Dietary iron deficiency in the rat. I. Abnormalities in energy metabolism of the hepatic tissue
A. Masini, G. Salvioli, P. Cremonesi, B. Botti, D. Gallesi and D. Ceccarelli (Italy) 46

Dietary iron deficiency in the rat. II. Recovery from energy metabolism derangement of the hepatic tissue by iron therapy
A. Masini, T. Trenti, I. Caramazza, G. Predieri, D. Gallesi and D. Ceccarelli (Italy) 53

Time-resolved spectral studies of blue-green fluorescence of leaves, mesophyll and chloroplasts of sugar beet (*Beta vulgaris* L.)
Z.G. Cerovic, F. Morales and I. Moya (France) 58

F_0F_1-ATPase of *Vibrio parahaemolyticus*: purification using new detergents and characterization
W. Ogawa, S. Izawa, Y. Sakai-Tomita, C. Moritani, M. Tsuda, K. Kinomura, S. Kitazawa and T. Tsuchiya (Japan) 69

Polarized site-selected fluorescence spectroscopy of isolated Photosystem I particles
B. Gobets, H. Van Amerongen, R. Monshouwer, J. Kruip, M. Rögner, R. Van Grondelle and J.P. Dekker (Netherlands, Germany) 75

Oxidative damage of mitochondria induced by 5-aminolevulinic acid: role of Ca^{2+} and membrane protein thiols
A.E. Vercesi, R.F. Castilho, A.R. Meinicke, V.G.R. Valle, M. Hermes-Lima and E.J.H. Bechara (Brazil) 86

Ca^{2+}-dependent permeabilization of the inner mitochondrial membrane by 4,4′-diisothiocyanatostilbene-2,2′-disulfonic acid (DIDS)
C.F. Bernardes, J.R. Meyer-Fernandes, D.S. Basseres, R.F. Castilho and A.E. Vercesi (Brazil) 93

The effect of pH on the growth and motility of *Rhodobacter sphaeroides* WS8 and the nature of the driving force of the flagellar motor
H.L. Packer, D.M. Harrison, R.M. Dixon and J.P. Armitage (UK) 101

Catalytic cooperativity of beef heart mitochondrial F_1-ATPase revealed by using 2′,3′-*O*-(2,4,6-trinitrophenyl)-ATP as a substrate; an indication of mutually activating catalytic sites
E. Muneyuki, T. Hisabori, W.S. Allison, J.-M. Jault, T. Sasayama and M. Yoshida (Japan, USA) 108

Kinetic analysis of energy transfer processes in LHC II isolated from the siphonous green alga, *Bryopsis maxima* with use of picosecond fluorescence spectroscopy
K. Nakayama, M. Mimuro, Y. Nishimura, I. Yamazaki and M. Okada (Japan) 117

Inhibition of electron transport through the Q_p site in cytochrome b/c_1 complexes by acridones
W. Oettmeier, K. Masson and M. Soll (Germany) 125

Anomalous response of oxonol-V to membrane potential in mitochondrial proton pumps
I. Ahmed and G. Krishnamoorthy (India) 131

Structural changes of sarcoplasmic reticulum Ca^{2+}-ATPase upon Ca^{2+} binding studied by simultaneous measurement of infrared absorbance changes and changes of intrinsic protein fluorescence
H. Georg, A. Barth, W. Kreutz, F. Siebert and W. Mäntele (Germany) 139

Substrate specificity and kinetics of thylakoid phosphoprotein phosphatase reactions
L. Cheng, M.D. Spangfort and J.F. Allen (Sweden) 151

Short Sequence-Papers

Complementary DNA sequences of the 24 kDa and 21 kDa subunits of complex I from *Neurospora*

J.E. Azevedo, M. Duarte, J.A. Belo, S. Werner and A. Videira (Portugal, Germany) 159

The cDNA sequence of beef heart C_{II-3}, a membrane-intrinsic subunit of succinate-ubiquinone oxidoreductase
B. Cochran, R.A. Capaldi and B.A.C. Ackrell (USA) 162

Review

Nickel hydrogenases: in search of the active site
S.P.J. Albracht (The Netherlands) 167

Regular Papers

The reaction of the plant mitochondrial cyanide-resistant alternative oxidase with oxygen
M. Ribas-Carbo, J.A. Berry, J. Azcon-Bieto and J.N. Siedow (Spain, USA) 205

Physiological and evolutionary aspects of the O_2/H_2O_2-cycle in cyanobacteria
K.P. Bader (Germany) 213

The amphiphilic drug-induced tryptophan fluorescence change of ion-transporting ATPases
G. Adhikary, S. Chandra, R. Sikdar and P.C. Sen (India) 220

Spectroscopic characterization of CP26, a chlorophyll *a/b* binding protein of the higher plant Photosystem II complex
H. Van Amerongen, B.M. Van Bolhuis, S. Betts, R. Mei, R. Van Grondelle, C.F. Yocum and J.P. Dekker (Netherlands, USA) 227

Involvement of xanthophyll pigments in regulation of light-driven excitation quenching in light-harvesting complex of Photosystem II
W.I. Gruszecki, P. Kernen, Z. Krupa and R.J. Strasser (Poland, Switzerland) 235

ADMR study of the effect of oligomerisation on the carotenoid triplets and on triplet-triplet transfer in light harvesting complex II (LHC II) of spinach
R. Van der Vos, E.M. Franken and A.J. Hoff (Netherlands) 243

The kinetic consequences of binding of hexokinase-I to the mitochondrial outer membrane
F.D. Laterveer, R. Van der Heijden, M. Toonen and K. Nicolay (Netherlands) 251

Binding of carboxylate anions at the non-heme Fe(II) of PS II. I. Effects on the $Q_A^-Fe^{2+}$ and Q_AFe^{3+} EPR spectra and the redox properties of the iron
Y. Deligiannakis, V. Petrouleas and B.A. Diner (Greece, USA) 260

Binding of carboxylate anions at the non-heme Fe(II) of PS II. II. Competition with bicarbonate and effects on the Q_A/Q_B electron transfer rate
V. Petrouleas, Y. Deligiannakis and B.A. Diner (Greece, USA) 271

Energy trapping in the purple sulfur bacteria *Chromatium vinosum* and *Chromatium tepidum*
J.T.M. Kennis, T.J. Aartsma and J. Amesz (The Netherlands) 278

The light-driven proton pump, cruxrhodopsin-2 in *Haloarcula* sp. arg-2 (bR^+, hR^-), and its coupled ATP formation
Y. Sugiyama, N. Yamada and Y. Mukohata (Japan) 287

Kinetic characterization of the reconstituted ornithine carrier from rat liver mitochondria
C. Indiveri, L. Palmieri and F. Palmieri (Italy) 293

Over-expression of membrane-bound cytochrome *c*-551 from thermophilic *Bacillus* PS3 in *Bacillus stearothermophilus* K1041
S. Noguchi, T. Yamazaki, A. Yaginuma, J. Sakamoto and N. Sone (Japan) 302

Changes in the distribution of the control of the mitochondrial oxidative phosphorylation in regenerating rabbit liver
T. Inomoto, A. Tanaka, S. Mori, M.B. Jin, B. Sato, N. Yanabu, A. Tokuka, T. Kitai, K. Ozawa and Y. Yamaoka (Japan) 311

An ENDOR study of structural changes in the environment of the dark stable tyrosine radical, $Y_D^{\cdot}$, of Photosystem 2 induced by inhibition of the oxygen evolving complex
S.E.J. Rigby, D.J. Maclachlan, J.H.A. Nugent and P.J. O'Malley (UK) 318

Investigation of the ammonium chloride and ammonium acetate inhibition of oxygen evolution by Photosystem II
D.J. MacLachlan, J.H.A. Nugent, J.T. Warden and M.C.W. Evans (UK, USA) 325

Light-induced oxygen uptake in tobacco chloroplasts explained in terms of chlororespiratory activity
W.I. Gruszecki, K.P. Bader and G.H. Schmid (Germany) 335

Topological studies of spinach 22 kDa protein of Photosystem II
S. Kim, E. Pichersky and C.F. Yocum (USA) 339

Femtosecond spectral and anisotropy study of excitation energy transfer between neighbouring α-80 and β-81 chromophores of allophycocyanin trimers
A.V. Sharkov, I.V. Kryukov, E.V. Khoroshilov, P.G. Kryukov, R. Fischer, H. Scheer and T. Gillbro (Russia, Germany, Sweden) 349

Isolation and characterization of Photosystems I and II from the red alga *Porphyridium cruentum*
G.R. Wolfe, F.X. Cunningham Jr., B. Grabowski and E. Gantt (USA) 357

Primary structure, cell-free synthesis and mitochondrial targeting of the 8.2 kDa protein of cytochrome *c* reductase from potato
H.-P. Braun, V. Kruft and U.K. Schmitz (Germany) 367

Caffeine and Ca^{2+} stimulate mitochondrial oxidative phosphorylation in saponin-skinned human skeletal muscle fibers due to activation of actomyosin ATPase
Z. Khuchua, Y. Belikova, A.V. Kuznetsov, F.N. Gellerich, L. Schild, H.W. Neumann and W.S. Kunz (Germany) 373

On the question of lateral migration of LHC II upon thylakoid protein phosphorylation in isolated pea chloroplasts: the stroma lamellar fraction separated from phosphorylated chloroplasts is not homogeneous
J.H. Georgakopoulos and J.H. Argyroudi-Akoyunoglou (Greece) 380

Developmental regulation of tissue-specific isoforms of subunit VIa of beef cytochrome *c* oxidase
R. Schillace, T. Preiss, R.N. Lightowlers and R.A. Capaldi (USA, UK) 391

Spectroscopic changes for C-phycocyanin and phycoerythrin 545 produced by ferric ion
R. MacColl, O. Williams, L.E. Eisele and D.S. Berns (USA, Israel) 398

Characteristics of mitochondrial proton leak and control of oxidative phosphorylation in the major oxygen-consuming tissues of the rat
D.F.S. Rolfe, A.J. Hulbert and M.D. Brand (UK, Australia) 405

Rapid Reports

Identification of the iron-carbonyl stretch in distal histidine mutants of carbonmonoxymyoglobin
J. Ling, T. Li, J.S. Olson and D.F. Bocian (USA) 417

Light-dependent degradation of the Photosystem II D1 protein is retarded by inhibitors of chloroplast transcription and translation: possible involvement of a chloroplast-encoded proteinase
H. Gong (Norway) 422

Secondary structure of the 33 kDa, extrinsic protein of Photosystem II: a far-UV circular dichroism study
Q. Xu, J. Nelson and T.M. Bricker (USA) 427

Short Sequence-Papers

DNA sequence of the *cut* A, B and C genes, encoding the molybdenum containing hydroxylase carbon monoxide dehydrogenase, from *Pseudomonas thermocarboxydovorans* strain C2
D.M. Pearson, C. O'Reilly, J. Colby and G.W. Black (UK) 432

Nucleotide sequence of the *psbE*, *psbF* and *trnM* genes from the chloroplast genome of *Chlamydomonas reinhardtii*
S. Alizadeh, R. Nechushtai, J. Barber and P. Nixon (UK) 439

Nucleotide sequence of the *petB* gene encoding cytochrome b_6 from the mesophilic cyanobacterium *Synechocystis* PCC 6803: implications for evolution and function
J. Kruip, P.J. Nixon, H.D. Osiewacz and M. Rögner (Germany, UK) 443

Nucleotide sequence of the *petE* gene encoding plastocyanin from the photosynthetic prokaryote, *Prochlorothrix hollandica*
A. Arudchandran, D. Seeburg, W. Burkhart and G.S. Bullerjahn (USA) 447

Cumulative Contents, Vol. 1188 451

Author Index 454